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COMPETENCE IN ASPECTS OF BEHAVIORAL TREATMENT AND CONSULTATION: IMPLICATIONS FOR SERVICE DELIVERY AND GRADUATE TRAINING

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This study examined the extent to which competence in applying behavioral procedures (time-out from positive reinforcement) was sufficient to establish competence in teaching others to apply the same procedures. During baseline, graduate students attempted to instruct parents with a history of child abuse and neglect in the use of time-out. Students were then instructed in the use of time-out until they achieved proficiency in a role-play context. They then reattempted to instruct the parents. Finally, the students were instructed in certain consultation skills (i.e., teaching others to apply behavioral procedures) and again attempted to instruct parents in the application of time-out. Observations of students' consultation skills, parents' proficiency at administering time-out, and children's compliance to parental instructions revealed that explicit training in behavioral consulting skills was necessary to produce improvements in these behaviors. Students' proficiency at administering time-out was insufficient to enable them to instruct others in its application. These results were corroborated by surveys of both students and staff. The implications for graduate training and service delivery are discussed.

DESCRIPTORS: parent training, graduate training, staff, time-out, consultation

Concern for the competent practice of behavior analysis and therapy has been expressed in many ways from many quarters. For example, there have been efforts within the service delivery system to identify and develop specific areas of competence among professionals and to delimit the range of treatment procedures available to these professionals (Hirschenberger, McGuire, & Thomas, 1987; Risley, 1975). Professional organizations, such as the Association for Behavior Analysis, have established standards for accrediting graduate and other training programs (Hopkins & Moore, 1993; Shook, 1993). Curricula for doctoral training have been proposed (Chase & Wylie, 1985; Michael, 1980) and students themselves, especially at the graduate level, may specifically seek and expect competency training (Isaacs, Embry, & Baer, 1982).

However, there is no consensus with regard to the areas in which students should acquire competency during graduate training nor the curriculum and methods to establish and assess these areas. Nevertheless, most proposals for graduate and professional training recognize that a competent professional must be proficient both as a primary treatment agent and as a consultant who can enable others (e.g., parents, teachers) to produce beneficial treatment outcomes (Kratochwill & Bergan, 1990). The importance of preparing professionals to man-

A report of the full study of individual and group training, all experimental materials, and a detailed observational code may be obtained from Brandon F. Greene.

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age behavior directly and to serve as a consultant has been discussed in the literature (Bernstein, 1982; Kratochwill & Bergan, 1990) and was underscored in a survey of employers of graduates from a university program specializing in behavior analysis and therapy (Lutzker, Greene, Cuvo, McGimsey, & McRae, 1982).

One area of professional practice in which competence as treatment agent and consultant is essential is in working with families. In particular, professionals working in families' homes may directly treat the behavior of the child while teaching the parent to do the same (Greene, Kessler, & Daniels, 1994; Lutzker, 1984; Patterson, Reid, & Dishion, 1992; Wahler & Fox, 1980). This approach has been widely used with families ranging from those experiencing relatively mild difficulties managing children's noncompliance to those who are at serious risk for dissolution due to a history of child abuse and neglect (Hobbs & Forehand, 1977; Morton & Grigsby, 1993; Patterson et al., 1992).

In some cases, however, therapists who also act as consultants achieve little or no success at enabling parents to improve their children's behavior (e.g., Dumas & Wahler, 1983). In these cases it is often difficult to ascertain the reasons for treatment failure, because programs lack sufficient technological description to be replicated (Baer, Wolf, & Risley, 1968; Dore, 1991; Lutzker, McGimsey, McRae, & Campbell, 1983; Lutzker, Touchette, & Campbell, 1988). Thus, failure could have been due to flaws in the treatment program, limitations in the professionals' skills in applying treatment, their inability to enable parents to apply treatment, or a combination of these. This uncertainty suggests the need for close examination of the process of professional training and evaluation.

It may be, for example, that professionals in behavioral graduate programs who learn to use specific treatment procedures will require no further explicit instruction in order to teach others to use those procedures. That is, their familiarity with behavioral principles, specific competence in the application of some of those principles (in the form of treatment procedures), and exposure to the training methods that establish their competence may be sufficient to enable these professionals to train parents in the use of the same procedures.

One pertinent study (Isaacs et al., 1982) described a program of videotaped instruction and role-play practice that enabled professionals both to acquire child management skills and to teach parents those skills. However, both sets of skills were taught concurrently. Therefore, the study did not test the possibility that persons proficient in the use of behavior management techniques will, by virtue of their proficiency and the opportunity to have observed an effective training process, be able to train others. In addition, the study was based in a clinic but involved participants who apparently were recruited solely for the study and who were not actually seeking services. An important next step is to determine the training necessary to enable professionals to work effectively directly in the homes of parents who require clinical services for themselves and their children (e.g., behavior management training for abusive parents).

In such situations the professional will often need to be proficient both in using and teaching parents to use time-out from positive reinforcement, a widely used behavior management procedure (Clark, Rowbury, Baer, & Baer, 1973; Forehand & Long, 1991; Handen, Parrish, McClung, Kerwin, & Evans, 1992; Hobbs & Forehand, 1977). However, although time-out is a seemingly simple procedure, its ethical and effective application is actually quite complex. Consideration must be given to various technical aspects such as assuring the presence of a "time-in" environment, the duration of the time-out period, the criteria for release, and the degree of exclusion or confinement (Hobbs & Forehand, 1977).

Therefore, in this study we examined the nature of training necessary to enable professionals to use time-out proficiently. We also examined

whether additional training of these professionals would be necessary to enable them to instruct parents with a history of child abuse and neglect to use time-out effectively.

METHOD

This study was part of a larger study involving 12 graduate students, 22 families, and two formats (individual and group) for training students to use and to teach others to use time-out (McGimsey, 1987). Reported here are the procedures and findings associated with an evaluation of the individual training format.

Participants and Setting

Students. Six students in their first year of graduate study in the Behavior Analysis and Therapy Program at Southern Illinois University at Carbondale participated. All were graduate assistants employed as staff members on Project 12-Ways. Their ages ranged from 20 to 24 years (M = 21.4). Most had undergraduate degrees in psychology as well as practical experience in human services.

Families. Participants were families in the caseload of Project 12-Ways. The project serves low-income families with a history of child abuse and neglect. Services attempt to correct child neglect, coercive parent–child interactions, and related problems (Greene et al., 1994; Lutzker, 1984; McGimsey, Lutzker, & Greene, 1994; Watson-Perczel, Lutzker, Greene, & McGimpsey, 1988). Each participating family's service plan had identified the need for time-out skills involving one parent–child dyad. Dyads from a total of 13 families were being served by the 6 students participating in the study. The data for a sample (n = 6) of these dyads are reported here.

One child and parent (5 mothers, 1 father, 3 girls, 3 boys) from each of 6 families participated. The children's mean age was 4.5 years (range, 3 to 6 years); the parents' mean age was 28 years (range, 24 to 33 years). Five of the 6 participating parents had graduated from high school; 1 had a college degree. Four of the parents had established records of child abuse, neglect, or both; the other 2 were considered to be at risk for such abuse. The income of each family was less than $10,000 annually.

The use of time-out had been recommended in the families' service plans, and the parents had been receiving training based on a model adapted from Peed, Roberts, and Forehand (1977). Specifically, parents had been taught to reinforce (praise) their children's appropriate behavior and to use clear, simple instructions when attempting to set the occasion for the child's compliance. The parents had already established "enriched time-in" conditions (according to the definition below) during at least 60% of the intervals in one or more of the last three baseline sessions.

A private residence in a middle-income neighborhood was used for training the students. Assessment and training with families occurred in their own homes.

Materials

Development and validation of the protocol for administering time-out. A preliminary task analysis of the steps involved in administering time-out was constructed from three sources: task analyses cited in the literature (Katz & Lutzker, 1981; Nay, 1980), direct observation of trained professionals administering time-out, and interviews with experts with time-out experience. This preliminary task analysis and a description of the setting and clients with whom the procedure would be used were then distributed to 20 nationally prominent professionals with extensive experience in using time-out. These experts rated on a 5-point scale (5 = *very good to do*; 1 = *very bad to do*) the importance of performing each step in the task analysis. Seventeen questionnaires were returned. Steps with a mean rating of 3.5 or better were included in the final protocol for administering time-out. This protocol (Table 1) is very similar to other empirically supported

Table 1
Time-Out Task Analysis: Steps in Using Time-Out Effectively

The "time-in" environment

Step 1: Provide an enriched time-in environment.
Step 2: Reinforce appropriate behavior.

Getting ready to use time-out

Step 3: Make the time-out area safe.
Step 4: Have a timing device available.

Sending the child to time-out

Step 5: Use a neutral tone of voice when warning and sending the child to time-out.
Step 6: Give a warning about time-out for the first occurrence of a minor inappropriate behavior.
Step 7: Send the child to time-out.
Step 8: Inform the child why he or she must go to time-out.
Step 9: Escort the child to time-out.
Step 10: Minimize physical interaction while escorting the child to time-out.
Step 11: Minimize verbal interaction while escorting the child to time-out.
Step 12: Inform the child of the duration of time-out.
Step 13: Note the time after putting the child into time-out.

While the child is in time-out

Step 14: Check the child's safety after putting him or her into time-out.

Releasing the child from time-out

Step 15: If the child is quiet the final 2 minutes, release the child from time-out.
Step 16: Minimize interaction with the child when releasing the child from time-out.
Step 17: Upon release from time-out involve the child in appropriate activities.

After each use of time-out

Step 18: Record use of time-out.
Step 19: Record the duration of time-out.

Contingency steps

If the child is not quiet at end of time-out:
Step 20: Explain condition for release to child if not quiet.
Step 21: Note the time if child is required to stay in time-out until quiet. Return to Step 15.

If the child leaves time-out early

Step 22: Return the child to time-out if he or she leaves early.
Step 23: If child is returned to time-out explain why he or she must remain longer.
Step 24: If child is returned, note time and return to Step 15.

If the child messes up the time-out room

Step 25: If the child messes up the time-out room, require him or her to clean before leaving.
Step 26: If required to clean room, explain to child he or she must remain in time-out until room is clean, then return to Step 15.

protocols (e.g., Katz & Lutzker, 1981; Nay, 1980).

Role-play scripts: Management skills. Seven scripts were developed for use in role-play situations to train and evaluate a student's skill in administering time-out (thus avoiding a child's exposure to potentially erratic application of a procedure taught by untrained students). The scripts included a broad sample of problematic child behavior (e.g., aggression, severe tantrums) occurring under circumstances for which time-out may be appropriate, as well as child behaviors that may function to gain attention or escape from the time-out contingency (e.g., pleading, arguing).

Role-play scripts: Consultation skills. Scripts were developed to assess students' consulting skills. Specifically, for each of the 26 steps in the time-out task analysis, four different scripts were created. Two specified correct methods and two specified incorrect methods of executing the step. For example, Step 11 of the time-out protocol specifies the parent should not interact verbally with a child while en route to time-out. Two improper variations involve (a) the parent scolding the child and (b) the parent arguing with a child begging not to be sent to time-out. Two correct variations involve (a) the child physically struggling with the parent while the parent silently continues to escort the child to time-out and (b) the child pleading with the parent not to be sent to time-out while the parent calmly and quietly escorts the child to time-out.

The 26 steps, each with four variations, yielded a total of 104 (4 variations × 26 steps) unique scripts of parent and child behavior.

Measurement

Assessment and training sessions with families were conducted using a parent training format adapted from Peed et al. (1977). Specifically, parent and child were asked to engage in a play session using materials they owned or those provided by Project 12-Ways. During these sessions, an experimenter asked the parent to instruct the child to perform a task, such as to put a toy car into the toy box. During these sessions, the following parental and child behaviors were targeted.

Enriched time-in. Time-in involved parents making gentle, playful, or passive physical touch or affectionate remarks or praise to the child.

Appropriate requests. The parent's use of appropriate requests was scored during parent–child interaction sessions. An appropriate request was defined as one in which the parent described a specific object (e.g., the red car) and a specific behavior for the child to perform (e.g., put it into the toy box) (Peed et al., 1977). A request was not appropriate if it did not specify exactly what to do with the object (e.g., "Here, use this") or if it was a request involving more than one step (e.g., "Put this one down, lift that one up and throw the other away").

Child compliance. Child compliance occurred if the child followed the parent's appropriate request within 20 s.

Management skills. Each student's use of time-out was scored during training sessions, and the parent's use of time-out was scored during simulated and actual interactions with the child according to the task analysis.

Consultation skills (training time-out). The consultation skills required the student to (a) provide a rationale for time-out and each step it entails and to describe the steps using simple, nontechnical language; (b) demonstrate the steps while describing them; (c) stage a role-play situation of each step with the parent in his or her own role and the student in the role of child; (d) deliver verbal praise for the parent's efforts and for correct aspects of the parent's performance; (e) accurately describe the parent's errors and the expected performance, and repeat the process of describing, modeling, and role-playing.

Enriched time-in, appropriate requests, and child compliance were measured using a continuous 20-s partial-interval scoring system. Management skills (applying time-out) and consultation skills were measured using the task analyses.

Observer Training and Reliability of Measurement

Interobserver agreement on student, parent, and child behavior was calculated by comparing primary and reliability observers' data sheets event by event for all time-out training and child compliance behavior, and interval by interval for parent time-in behavior. Reliability observations were conducted for all participants in at least 25% sessions, across conditions. Reliability was calculated on the basis of agreements on occurrence. Mean reliability for any target behavior during any condition was never less than 93% (range, 83% to 100%).

Experimental Procedures

Students

Baseline: Student management and consulting skills. At each session the experimenter introduced the student to the "child" (a graduate assistant playing the role of the child in the script). The experimenter instructed the student to act as if the home was his or her own. The child was described as a 5-year-old whose misbehavior included throwing toys and aggression toward adults (e.g., biting, slapping, and hitting), particularly when adults attempted to set limits on the child's behavior. The experimenter informed the student that time-out from positive reinforcement had been selected as the treatment of choice to decrease these behaviors under these circumstances, and that the student was to administer this procedure.

The student was allowed to explore the house

and furnishings for about 15 min and to interact with the child. The experimenter then signaled the child to engage in the inappropriate target behaviors according to one of the seven scripts (randomly selected without replacement). Five minutes after the child emitted these behaviors, the experimenter signaled the end of the session unless the child was in time-out. The student was given no feedback on performance.

An assessment of each student's consultation skills (i.e., the ability to train someone else to administer time-out) usually occurred within the same session. The student was introduced to a "parent" (another graduate assistant) who was described as the parent of a disruptive child. The experimenter instructed the student to train the parent in the use of time-out. When the role-play session began, the confederate parent acted according to the script and the student's consultation skills were assessed. For example, if the parent implemented some steps of time-out correctly, the student should provide descriptive praise. If the parent performed incorrectly, the student should provide corrective feedback, describe and model the correct behavior, and role-play with the parent. Role-playing continued until eight scripted scenes (randomly selected without replacement from the set of 104 scripts) had been presented.

Individual training of students in behavior management (administering time-out). Five days before the first instructional session, each student received a training packet containing (a) instructions for using the written materials, (b) a written description of each step in the time-out task analysis, and (c) a 20-question self-administered quiz.

At the next session, the experimenter answered questions regarding the materials and readministered the quiz to anyone who had not scored at least 95%. If the student failed to pass the quiz after two opportunities, the student was instructed to review the materials and to return on a later date for training.

The experimenter described and modeled each step on the task analysis. The student then attempted that step with the experimenter, who assumed the role of the child. If the student performed incorrectly, the experimenter repeated the training process. Following two consecutive correct role-playing sessions, the experimenter began training the next step in the time-out protocol.

After each individual step in the time-out protocol had been correctly role-played, the student attempted the entire sequence. The experimenter provided correction and praise to the student following completion of the training trial. Training was considered to be complete when the student performed the entire sequence of steps correctly one time.

Individual training of students in consultation skills (teaching parents to administer time-out). The same instructional procedures used to train behavior management skills were used to train consulting skills. Students received a task analysis of consulting skills, definitions, and examples. The experimenter modeled and role-played each skill in the task analysis. Instruction was complete when the student demonstrated proficiency in all consultation skills one time.

Maintenance. Approximately 6 weeks after receiving training, each student participated in role-play sessions as in baseline.

Families

Baseline. During baseline, several activities transpired at each session in the family's home. First, the experimenter involved the parent and child in 20 min of toy play, during which the parent's provision of time-in and the child's compliance to instructions were assessed. Specifically, the experimenter provided the parent with cue cards. After 5 min of free play, the experimenter signaled the parent to read a card. The card prompted the parent to instruct the child to perform a task. The parent was to praise the child if the child complied within 20 s. (The cue card provided an example of praise for the parent; e.g., "Good boy, Bobby, you placed the airplane into the yellow box.") If the

child did not comply within 20 s, the parent was to ignore the child until the experimenter's next signal. Parents were signaled to deliver a total of 15 requests, one per minute.

Next, the parent's use of time-out was assessed in a role-play session (with staff acting in the role of child) and occasionally at home with the parent's own child. The assessment was conducted in the same manner as the assessments of students administering time-out. Many parents had been instructed in time-out by social service agents. If a parent stated that he or she knew nothing about time-out or could not apply the procedure, a score of 0% was recorded.

Finally, we periodically probed the performance of students (who had yet to receive behavior management or consultation training) as they attempted to train parents to use time-out. For these probes the experimenter briefed the student about the family's history and the target child's inappropriate behavior. The student was told to train the parent to administer time-out using any method with which the student was familiar. Students were allowed as much time to train as they wished (they averaged 1 hr). Within 12 hr after the student indicated that training was complete, the experimenter met privately with the family and assessed parent–child interactions during free play and the ability of the parent to administer time-out in a simulation.

Parent trained by students proficient as behavior managers (applying time-out). During this condition, the same activities conducted during baseline sessions continued. However, by this time the students had completed behavior management training (in the use of time-out). They again attempted to instruct parents to administer time-out.

Parent trained by students proficient as a behavior consultant. Sessions were conducted in the same manner as the previous two conditions. However, parents were instructed in the use of time-out by students who had demonstrated proficiency in both behavior management and consultation under simulated training conditions.

Maintenance. Six weeks after the parent was taught to administer time-out by a student trained as a consultant, a maintenance assessment session was conducted at the family's home. Parent–child interaction sessions (in situ) and time-out skill assessment (in a role-play session) were conducted as described earlier.

Experimental Design

The study was designed to coordinate the various phases of assessment and training between students and families. A schematic of the design appears in Figure 1. Each parent's time-out skills were probed in role-play sessions and with the actual child (whose compliance was assessed) during the course of instruction by students who successively completed baseline, behavior management and consultation training. The training of students was evaluated in a multiprobe fashion across behaviors (management, consultation) and across groups of students. Similarly, training of families was evaluated in a multiple baseline fashion.

In addition, the design provided that students who had attempted to train certain parents in the use of time-out during baseline, after achieving proficiency as a behavior manager, or both were assigned different parents to train after achieving proficiency as a consultant. This arrangement was intended to minimize potential practice effects associated with training the same family.

Finally, some families were trained only by students who had completed consultant training. That is, these families had no prior exposure either to untrained students or to students trained only as behavior managers. This arrangement provided an evaluation of whether such prior exposure was necessary for the parent to achieve competence in the use of time-out.

Consumer Satisfaction

Following the 6-week maintenance assessment session, each student completed a brief questionnaire regarding their previous experience in using and teaching others to use time-

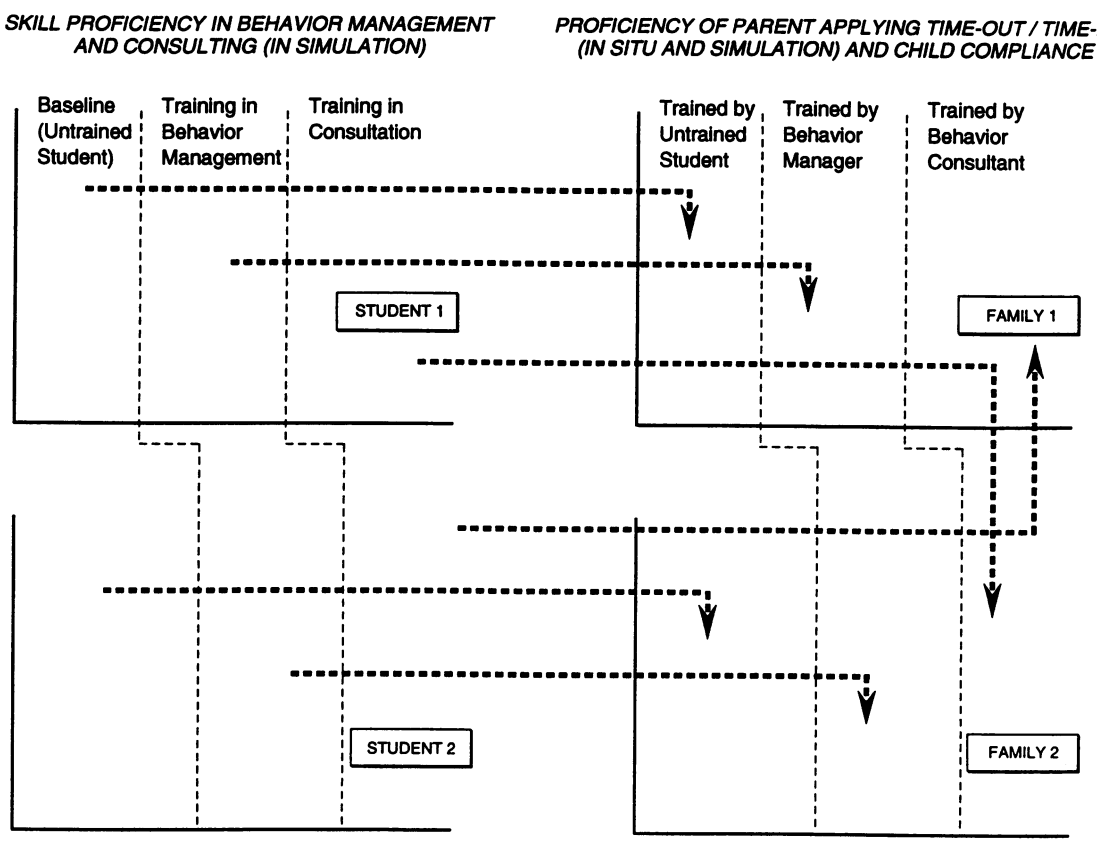

Figure 1. A stylized depiction of the experimental design. See Experimental Design section for details.

out. In addition, the questionnaire asked the students to rate the usefulness of the training provided during the study.

Following the last maintenance session of parent–child interaction, each parent was asked to rate the training and to compare training received from the trainers (skilled and unskilled) over the course of the study. Each parent was also asked to rate satisfaction with the training and the extent to which his or her child's compliance had improved.

RESULTS

Figures 2 and 3 present the performances of a sample of 4 students (S1, S2, S5, and S6) from among the 6 who were individually trained during role-play sessions first to apply time-out (behavior management) and then to teach others its application (behavioral consulting). Table 2 presents the mean performance of all 6 students both in role-play sessions and in situ.

Training students in behavior management improved only their behavior management skills. It had no apparent impact on consulting skills in role-play sessions or in situ. Direct role-play training in the use of the targeted consulting skills was required to improve role-play performance to approximately 100%.

The impact of this training was ultimately reflected in students' performance with families and in the behavior of the families themselves. Figures 4 and 5 depict the performance of students and families who received training from untrained students, students proficient in behavior management, and, ultimately, students proficient in behavioral consulting skills. It is evident that (a) parents' and children's behaviors did not improve following their exposure to un-

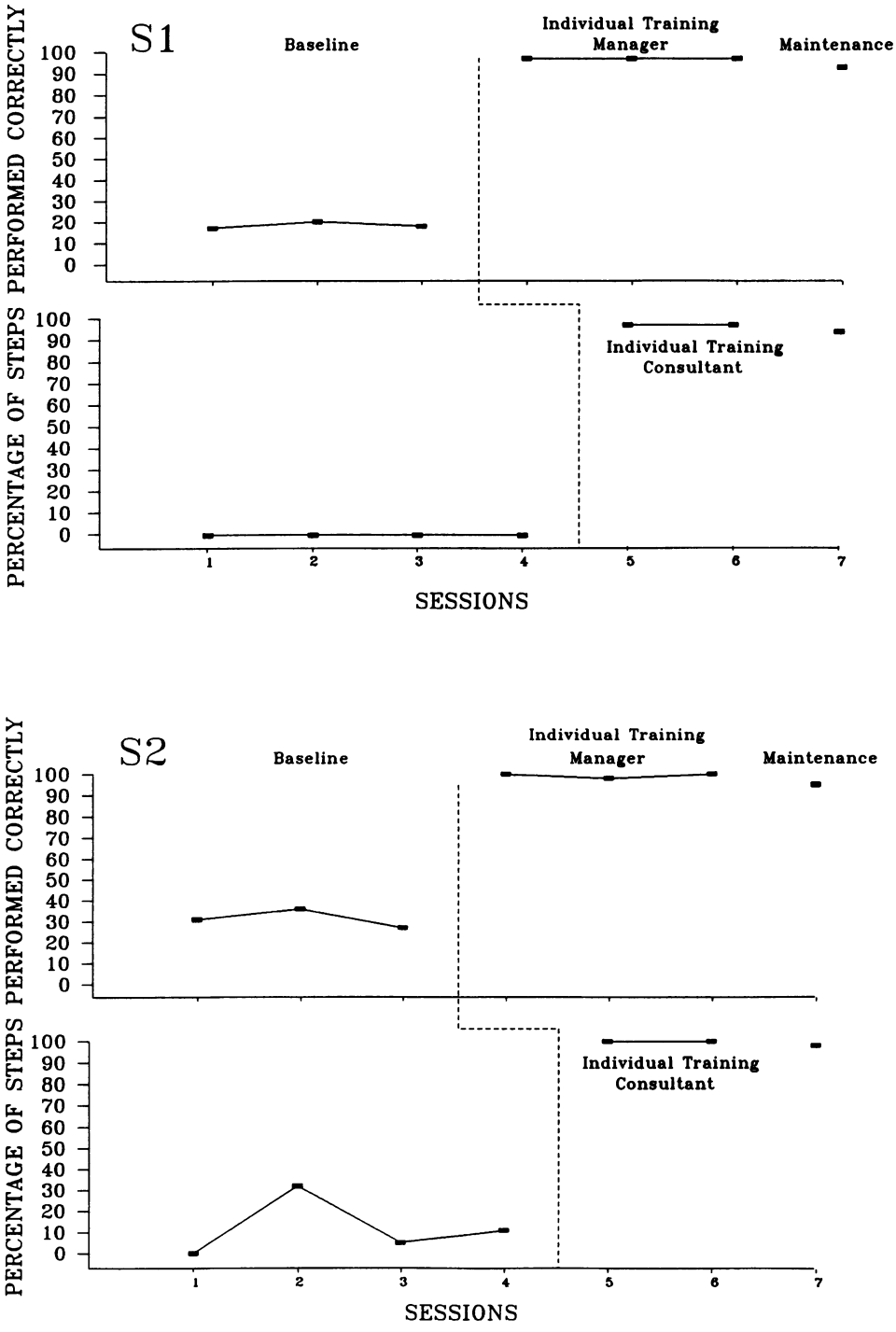

Figure 2. A multiple baseline analysis of the performances of S1 and S2 in role-play application of behavior management (administering time-out) and behavioral consulting skills (teaching others to administer time-out).

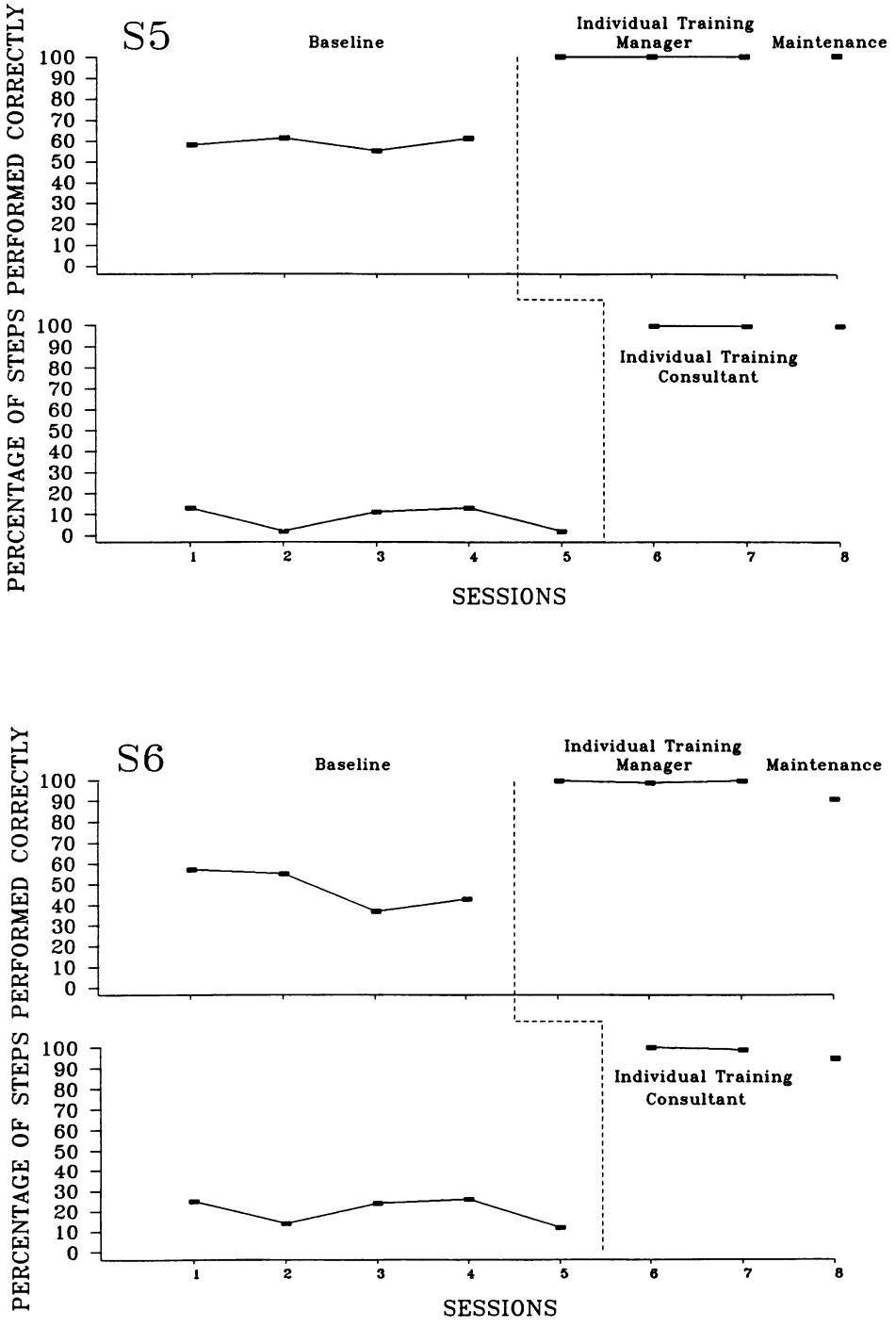

Figure 3. A multiple baseline analysis of the performances of S5 and S6 in role-play application of behavior management (administering time-out) and behavioral consulting skills (teaching others to administer time-out). Training was conducted individually with these students.

Table 2
Mean Percentage of Steps Accurately Completed by Students Administering (Managing) and Teaching Others to Administer (Consulting) Time-out

		Training by		
	Baseline	Manager	Consultant	Maintenance
Student 1				
Management (role-play)	22	100	100	96
Consultation (role-play)	0	0	100	97
Consultation (in situ)	10	10	95	NC
Student 2				
Management (role-play)	31	99	100	95
Consultation (role-play)	12	11	100	98
Consultation (in-situ)	2	3	98	NC
Student 3				
Management (role-play)	55	100	100	100
Consultation (role-play)	14	13	100	100
Consultation (in situ)	8	10	96	NC
Student 4				
Management (role-play)	14	100	100	92
Consultation (role-play)	7	0	98	92
Consultation (in situ)	9	11	92	NC
Student 5				
Management (role-play)	59	100	100	100
Consultation (role-play)	10	12	100	100
Consultation (in situ)	9	6	97	NC
Student 6				
Management (role-play)	48	100	100	91
Consultation (role-play)	22	12	100	95
Consultation (in situ)	14	NC	92	NC

Note. NC = not a condition.

trained students or students trained only in behavior management (Families 3, 7, and 9), (b) the benefits of students' role-play training in consultation skills generalized to performance with families and, in so doing (c) improved the performance of family members. Finally parents' mastery of time-out required training from a student proficient both in behavior management and consultation. It did not require prior exposure to instruction by a student proficient only in behavior management. For example, Families 2, 4, and 12 had no initial exposure to students who were proficient in behavior management only. Their training was provided exclusively by students who were proficient in both management and consultation. This was sufficient to improve the performance of the children and parents.

In response to the questionnaire, most students rated both the behavior management and consultation skills training highly and acknowledged that the training improved these skills. Students criticized the training as too time consuming.

Three of the 6 parents had been exposed to trainers who were proficient in behavior management only as well as trainers who were proficient in behavior management and consulting. All of these parents indicated that the trainer who was proficient in both behavior management and consulting had done the best job of training.

DISCUSSION

The skills examined in this study represent only a small set of those that may be necessary to be thoroughly competent in consultation involving behavior management. Such competence also involves the ability to conduct functional assessments, to synthesize behavioral principles into ethical and effective treatments, to anticipate problems, and to work within complex organizations (Kratochwill & Bergan, 1990). Nevertheless, graduate students' acquisition of the behavior management and consulting skills targeted in this study required direct hands-on instruction. This may be significant given proposals for graduate curricula that dismiss such specialized training as "digressions" (Michael, 1980). Even proposals to include practical experience in graduate training (e.g., Chase & Wylie, 1985) have not recognized or explicitly identified the experience that is apparently necessary for students to develop competence in aspects of behavior management and consultation. Our findings suggest that "practical experience" itself may be either insufficient or, at best, inefficient at shaping such competence.

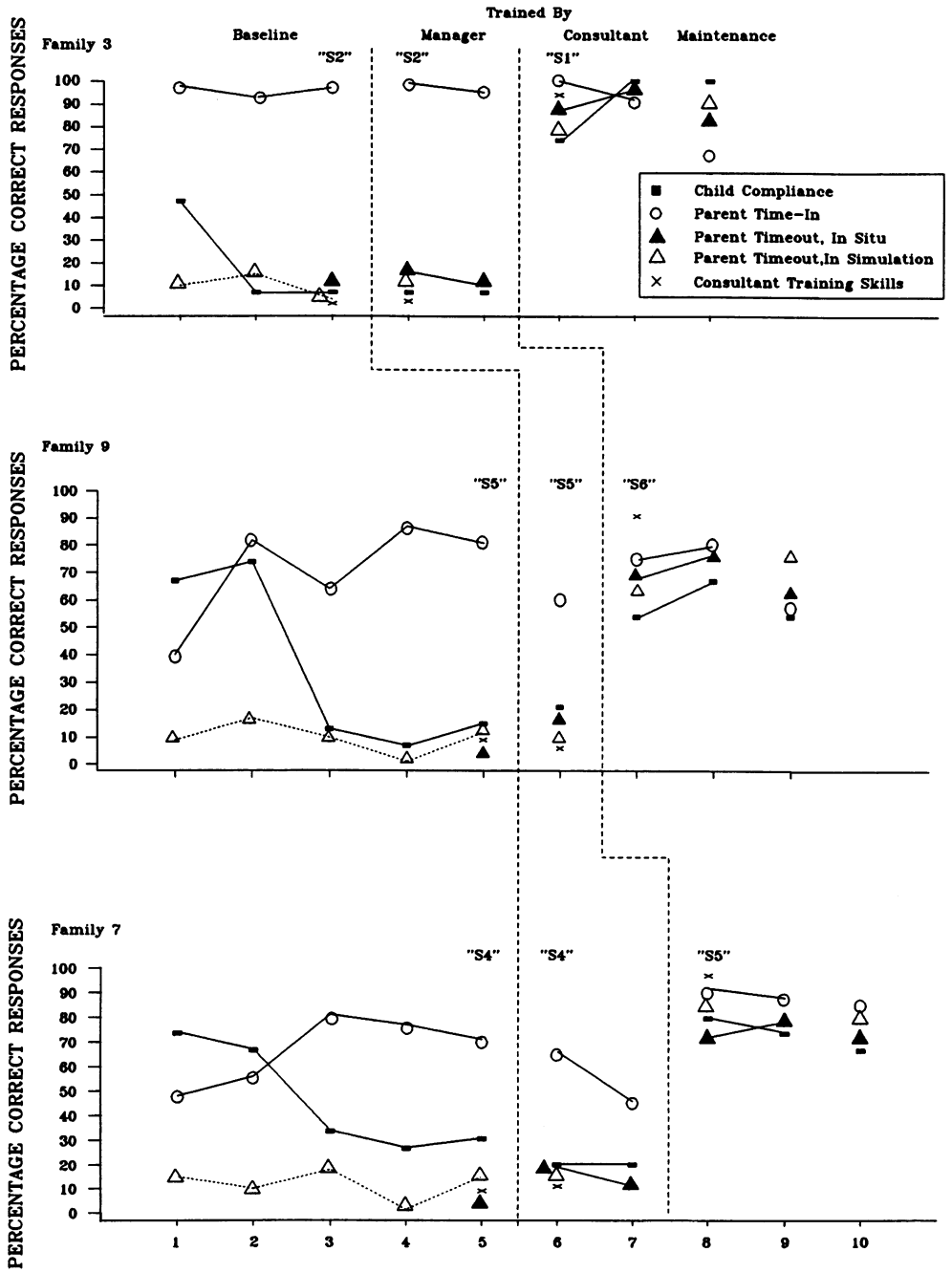

Figure 4. A multiple baseline analysis of the performances of a sample of Families 3, 9, and 7 and of students consulting with these families. Parental time-in in situ (open circles), time-out in situ (closed triangles), and time-out in simulation (open triangles) are depicted during baseline, following training by a competent behavior manager and a competent behavioral consultant, and during maintenance. The particular students providing training are identified and their use of consultation skills is depicted (X).

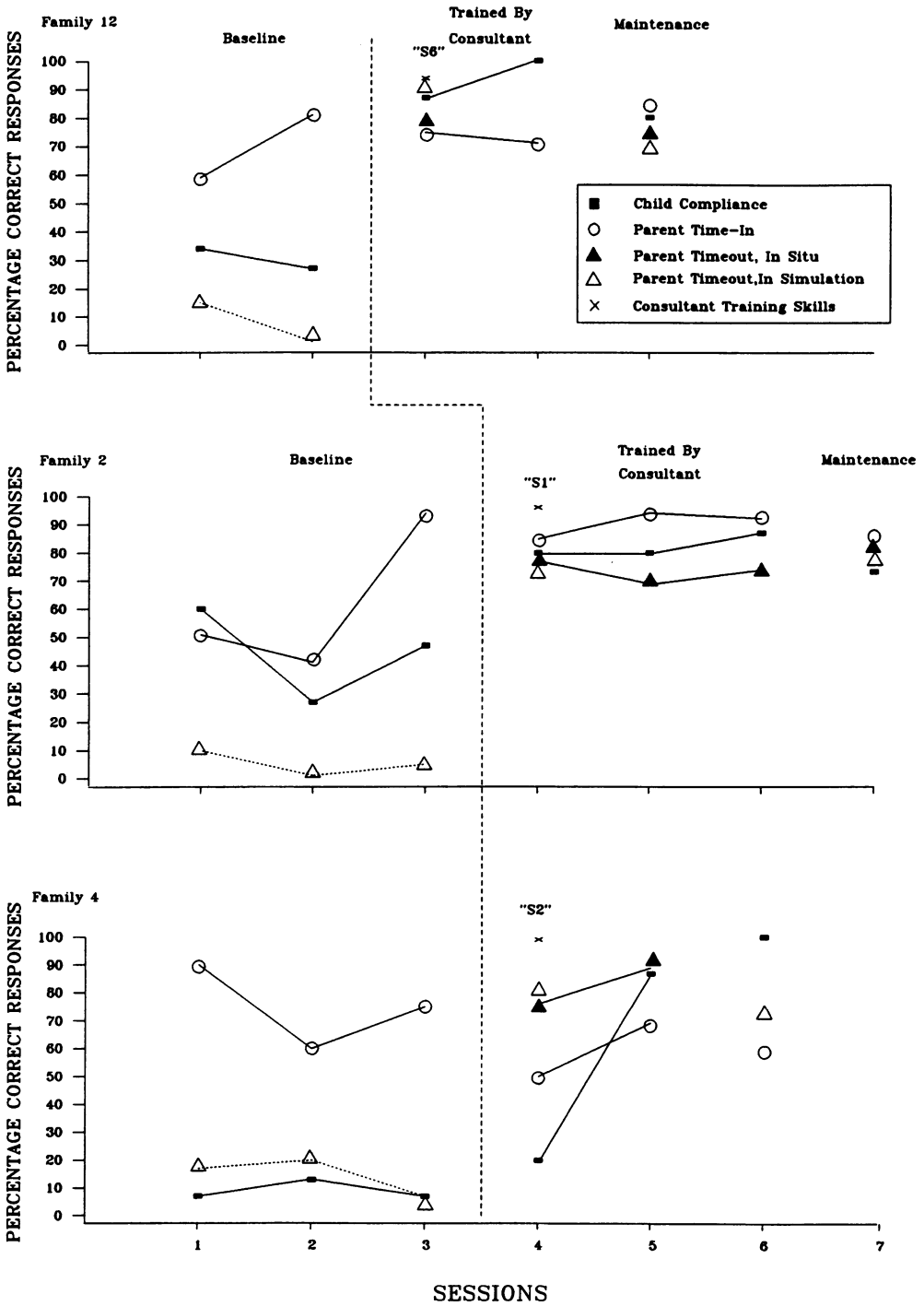

Figure 5. A multiple baseline analysis of the performance of a sample of Families 12, 2, and 4 and of students consulting with these families. Parental time-in in situ (open circles), time-out in situ (closed triangles), and time-out in simulation (open triangles) are depicted during baseline, following training by a competent behavior manager and a competent behavioral consultant, and during maintenance. The particular students providing training are identified and their use of consultation skills is depicted (X).

The fact that students who were proficient in the use of time-out could not effectively instruct others in its use was somewhat surprising. Their own instruction in the use of time-out provided a model of necessary skills. However, until students were explicitly trained in those consulting skills, their training of parents tended to be primarily didactic, with little emphasis on modeling, rehearsal, correction, and reinforcement. This finding may have important implications both for research and practice in a variety of settings.

For example, in clinical practice and in popular parenting literature, time-out is frequently recommended for various child management problems, yet parents often reject it on the claim that it is ineffective. This paradox is probably explained by the fact that time-out appears to be a simple procedure. Therefore, instruction in its use has been attempted in various ways (e.g., lectures, popular media) by various professionals (e.g., social workers, pediatricians, teachers) for application with various populations and settings. However, given the numerous details that must be engineered to make its application successful, it is possible that much of this instruction is simply ineffective.

Similarly, much of the technical literature on training parents to use procedures such as time-out is equivocal. Some studies report success at producing changes in both parent and child behavior, whereas others report little or no success (Dore, 1991; Greene et al., 1994; Lutzker et al., 1983). These differences may be attributable to a variety of factors, such as differences in subject populations and presenting problems. However, in light of our results, the possibility that the trainers themselves were either not proficient in behavior management, behavioral consultation, or both should not be overlooked.

Nevertheless, an encouraging finding was that the skills necessary to enable students to be proficient managers and consultants were acquired in role-play situations and then generalized to situations involving families. Such generalization was not expected, but it may indicate that the scripts and other elements of training closely approximated the actual conditions of working with families. An optimistic possibility is that the consulting skills themselves may have considerable generality. That is, the basic consultation skills studied here probably have considerable generality for training a variety of skills. Thus, their mastery may enable students to be proficient at teaching other behavior management skills. Research is needed to test this possibility.

Finally, further research is needed to identify more efficient approaches to professional training (e.g., in groups instead of individually). In addition, it would be worthwhile to consider whether a core of skills can be identified for graduate and postgraduate training that generalize either because they embody several behavioral principles or because of their wide applicability to various settings and populations. Competence with time-out, for example, entails competence with positive reinforcement (time-in), extinction (by removing, when possible, contingencies maintaining the problematic behavior) and managing children's escape or avoidance behaviors that often occur during the application of time-out. Moreover, time-out is applicable to various problems and populations. Thus, it may be a skill whose mastery may help to establish generalized competence in behavior management. These are considerations for future research that may help in the broader effort to promote the competent and responsible practice of behavior analysis.

REFERENCES

Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis, 1,* 91–97.

Bernstein, G. S. (1982). Training behavior change agents: A conceptual review. *Behavior Therapy, 13,* 1–23.

Chase, P. N., & Wylie, R. G. (1985). Doctoral training in behavior analysis: Training generalized problem-solving skills. *The Behavior Analyst, 8,* 159–176.

Clark, H. B., Rowbury, T., Baer, A. M., & Baer, D. M. (1973). Timeout as a punishing stimulus in continuous and intermittent schedules. *Journal of Applied Behavior Analysis, 6,* 443–455.

Dore, M. M. (1991). Context and the structure of practice: Implications for research. In K. Wells & D. E. Biegel (Eds.), *Family preservation services: Research and evaluation* (pp. 121–137). Newbury Park, CA: Sage.

Dumas, J. E., & Wahler, R. G. (1983). Predictors of treatment outcome in parent training: Mother insularity and socioeconomic disadvantage. *Behavioral Assessment, 5,* 301–313.

Forehand, R., & Long, N. (1991). Prevention of aggression and other behavior problems in the early adolescent years. In D. Pepler & K. H. Rubin (Eds.), *The development and treatment of childhood aggression* (pp. 317–330). Hillsdale, NJ: Erlbaum.

Greene, B. F., Kessler, M. L., & Daniels, M. E. (1994). *Issues in child welfare: Competency training for family preservation personnel.* Manuscript submitted for publication.

Handen, B. L., Parrish, J. M., McClung, T. J., Kerwin, M. E., & Evans, L. D. (1992). Using guided compliance versus time out to promote child compliance: A preliminary comparative analysis in an analogue context. *Research in Developmental Disabilities, 13,* 157–170.

Hirschenberger, R. H., McGuire, P. S., & Thomas, D. R. (1987). Criterion-referenced, competency-based training in behavior modification. In B. A. Edelstein & E. S. Berler (Eds.), *Evaluation and accountability in clinical training* (pp. 299–329). New York: Plenum.

Hobbs, S. A., & Forehand, R. (1977). Important parameters in the use of timeout with children: A re-examination. *Journal of Behavior Therapy and Experimental Psychiatry, 8,* 365–370.

Hopkins, B. L., & Moore, J. (1993). ABA accreditation of graduate programs of study. *The Behavior Analyst, 16,* 117–121.

Isaacs, C. D., Embry, L. H., & Baer, D. M. (1982). Training family therapists: An experimental analysis. *Journal of Applied Behavior Analysis, 15,* 505–520.

Katz, R. C., & Lutzker, J. R. (1981). A comparison of three methods for training timeout. *Behavioral Research of Severe Developmental Disabilities, 1,* 123–130.

Kratochwill, T. R., & Bergan, J. R. (1990). *Behavioral consultation in applied settings: An individual guide.* New York: Plenum.

Lutzker, J. R. (1984). Project 12-Ways: Treating child abuse and neglect from an ecobehavioral perspective. In R. F. Dangel & R. A. Polster (Eds.), *Parent training: Foundations of research and practice* (pp. 260–291). New York: Guilford.

Lutzker, J. R., Greene, B. F., Cuvo, A. J., McGimsey, J. F., & McRae, S. (1982). [Untitled report.] Carbondale, IL: Southern Illinois University, Behavior Analysis & Therapy Program.

Lutzker, J. R., McGimsey, J. F., McRae, S., & Campbell, R. V. (1983). Behavioral parent training: There's so much more to do. *The Behavior Therapist, 6,* 110–112.

Lutzker, J. R., Touchette, P. E., & Campbell, R. V. (1988). Parental positive reinforcement might make a difference: A rejoinder to Forehand. *Child and Family Behavior Therapy, 10,* 25–33.

McGimsey, J. F. (1987). *Training child abuse professionals in behavior management and consultation: The effects on mediators (parents) and consumers (children).* Unpublished doctoral dissertation, Southern Illinois University, Carbondale.

McGimsey, J. F., Lutzker, J. R., & Greene, B. F. (1994). Validating and teaching affective adult-child interaction skills. *Behavior Modification, 8,* 198–213.

Michael, J. L. (1980). Flight from behavior analysis. *The Behavior Analyst, 3,* 1–21.

Morton, E. S., & Grigsby, R. K. (Eds.). (1993). *Advancing family preservation practice.* Newbury Park, CA: Sage.

Nay, W. R. (1980). A systematic comparison of instructional techniques for parents. *Behavior Therapy, 6,* 14–21.

Patterson, G. R., Reid, J. B., & Dishion, T. J. (1992). *A social interactional approach: Antisocial boys* (Vol. 4). Eugene, OR: Castalia.

Peed, S., Roberts, M., & Forehand, R. (1977). Evaluation of the effectiveness of a standardized parent training program in altering the interaction of mothers and their noncompliant children. *Behavior Modification, 1,* 323–349.

Risley, T. R. (1975). Certify procedures not people. In W. S. Wood (Ed.), *Issues in evaluating behavior modification: Proceedings of the First Drake Conference on Professional Issues in Behavior Analysis* (pp. 159–181). Champaign, IL: Research Press.

Shook, G. L. (1993). The professional credential in behavior analysis. *The Behavior Analyst, 16,* 87–101.

Wahler, R. R., & Fox, J. J. (1980). Solitary toy play and time-out: A family treatment package for children with aggressive and oppositional behavior. *Journal of Applied Behavior Analysis, 13,* 23–29.

Watson-Perczel, M., Lutzker, J. R., Greene, B. F., & McGimpsey, B. J. (1988). Assessment and modification of home cleanliness among families adjudicated for child neglect. *Behavior Modification, 12,* 57–81.

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